

du Treil, Lundin & Rackley, Inc.

A Subsidiary of A. D. Ring, P. C.

March 12, 1992

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: RM-7651

Dear Ms. Searcy:

It is requested that the attached material concerning stations WKNO-FM and WSMS, Memphis, Tennessee, be associated with RM-7651.

The attached material shows that these two FM stations located in the same vicinity and separated by only two channels do not experience interference.

Kindly contact the undersigned should there be any question with respect to this matter.

Very truly yours,

L. R. du Treil
Louis R. du Treil

Enclosure

cc: Mr. Ben Dawson
Mr. Don Everist

LRD:las

DLR:2248

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MAR 13 1992

Federal Communications Commission
Office of the Secretary



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February 11, 1991

Ms. Donna R. Searcy
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Federal Communications Commission
Washington, D.C. 20554

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Re: Public Stations

WKNO-FM, Memphis, Tennessee
FCC File No. BPEX-881128ME

WSMS(FM), Memphis, Tennessee
FCC File No. BPEX-881128MF

BLEX-900806 KB

BLEX-900926 KA

Dear Ms. Searcy:

On behalf of Mid-South Public Communications Founda-
tion and Memphis State University, we are filing herewith, in
triplicate the parties' complete report pursuant to the condi-
tions specified in the above-referenced experimental authori-
zations. The parties will gladly supply any additional infor-
mation which you may require in connection with this project.

Please address any questions concerning this matter
to this office.

Respectfully submitted,

SCHWARTZ, WOODS & MILLER

By: MALCOLM G. STEVENSON
Malcolm G. Stevenson

MGS/abk

cc: Robert Greenberg, FCC, #332

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Federal Communications Commission
Office of the Secretary

AUDIO SERVICES
DIVISION

Chief, FM Branch
Federal Communications Commission
1919 M Street, NW
Washington, D.C. 20554

RE: Public Stations

WKNO-FM, Memphis Tennessee
FCC File No. BPEX-881128 ME

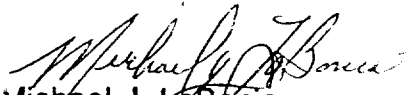
WSMS-FM, Memphis, Tennessee
FCC File No. BPEX-881128 MF

Dear Sir:

On behalf of the Mid-South Public Communications Foundation and Memphis State University, we submit herewith the complete report pursuant to the conditions specified in the above-referenced Experimental Authorizations.

Our conclusion is that no overwhelming interference between the two stations is apparent within the prescribed test area.

Respectfully submitted,



Michael J. LaBonia
President & CEO
WKNO-TV/FM

Respectfully submitted,



Richard R. Ranta, Dean
College of Communication & Fine Arts
Memphis State University

BACKGROUND SUMMARY

This report is prepared by Mid-South Public Communications Foundation, licensee of Station WKNO-FM, Memphis, Tennessee and Memphis State University, licensee of public Station WSMS(FM), Memphis, Tennessee, pursuant to the conditions set forth in experimental authorizations issued by the Commission in connection with modifications of their respective facilities (File Nos. BPEX-881128ME and BPEX-881128MF). In a cooperative venture, Stations WKNO (Channel 216) and WSMS (Channel 219) applied to the Commission to increase WKNO from 40,000 to 100,000 watts, increase WSMS from 250 to 25,000 watts directional, and relocate the WSMS transmission site to a location within the WKNO 100 dBu contour.

Upon receipt of their experimental authorizations on April 3, 1989, the parties proceeded to construct the authorized facilities. During the summer of 1990, the broadcast tower of WSMS was accidentally destroyed, causing the station, still operating at 250 watts, to temporarily cease operation with the Commission's permission. WKNO, having already installed its facilities to increase the stations power, applied to the Commission in July 1990 to proceed with its power increase and perform certain tests in anticipation of the testing program prescribed by the Commission in its experimental authorizations for the stations. With WSMS off the air, WKNO measured field strength and checked radios for interference as prescribed in Paragraph 1 of Special Operating Conditions or Restrictions which are part of

the experimental authorizations. The results of those tests were supplied to the Commission December 21, 1990. The instant report sets forth measurements, analysis and other information pursuant to Paragraph 4 of the Special Operating Conditions or Restrictions.

EXPERIMENTAL OPERATION

WSMS resumed broadcasting in accordance with its experimental authorization on December 10, 1990. In order to assure maximum exposure prior to the commencement of the experimental operation, advertisements were first placed during the weeks of October 22 and 29, 1990, in the Daily News, the local legal newspaper and then, two weeks prior to commencement of experimental operation, in the Commercial Appeal, the largest local newspaper (circulation: 219,000), as prescribed in Paragraph 2 of Special Operating Conditions or Restrictions (Exhibit A).

During the first two weeks of operation (December 10-24, 1991), both stations made announcements every two hours explaining the experimental nature of the broadcast operation of the stations and advising listeners to call should they experience interference (Exhibit B), as prescribed in Paragraph 3 of Special Operating Conditions or Restrictions. Results of those announcements produced virtually no calls indicating interference between the two stations (Exhibit C). Measurements of the two

stations' relative field strength and practical reception tests with five radios were performed January 22, 23 and 24, 1991, as prescribed in Paragraph 1 of Special Operating Conditions or Restrictions. In this connection, it should be noted that there was some variation between these field strength measurements and those taken during the summer of 1990 by WKNO. These variations in all likelihood were due to the differences in atmospheric and climatological conditions attending the measurement sessions; the summer measurements were conducted in 90-degree weather while the winter measurements were conducted in 30-degree weather. After transferring the 100 dBu contours of both stations to a current road map, a grid consisting of horizontal and vertical lines separated by 2 kilometers was laid. Tests were performed at each intersection of the grid by Mr. Pat Lane, Chief Engineer of WKNO and Mr. Barry Less, Broadcast Engineer of WSMS (Exhibit D). Five receivers of varying cost and quality were chosen, including one standard AM/FM car receiver with analog tuning, one digitally tuned car receiver, one portable receiver with analog tuning, one home-type receiver with digital tuning and one headset-type receiver with analog tuning (Exhibit E). Mr. Lane and Mr. Less judged interference on each receiver at each test site (Exhibit F).

SUMMARY AND ANECDOTAL INFORMATION

Telephone calls from listeners during the first two

weeks of experimental operation indicate no pattern of interference involving the two stations. These calls are summarized in Exhibit C. Between 9:30 - 10:30 a.m. on January 8, WKNO received seven telephone calls indicating that WSMS was clearly audible in the background of WKNO. These callers were all located within one-quarter of a mile of each other in an area outside of the 100 dBu contours of the stations. Engineers from both stations immediately checked to confirm that both stations were operating as prescribed and travelled to the area south of the stations' transmission sites from which all of the complaints had come to perform practical tests with various receivers. The engineers found no interference and telephone calls to WKNO ceased. We can only assume that an atmospheric anomaly caused the sudden problem. The only other remarks from the public subsequent to the initial two-week test period have involved listeners who have experienced "difficulty tuning the stations" on very inexpensive receivers outside the 100 dBu contours of the stations.

Our conclusion is that, with few possible exceptions, there is no significant interference between the stations as a consequence of their experimental operations.

Exhibit "A"

[illegible]

Nov. 27, 1990
Dec. 1, 1990
Dec. 4, 1990
Dec. 8, 1990

Exhibit "B"

Interference announcement

WKNO and WSMS have commenced experimental operations at increased power. If you have difficulty receiving WKNO, please call us at 323-9566.

Exhibit "C"

WKNO INTERFERENCE TELEPHONE CALLS

<u>Name/Address/Phone</u>	<u>Receiver</u>	<u>Comments</u>
Sue McLain 3577 Bishops Gate Memphis, TN 38115 (901) 360-9877	Car & Home (unspecified)	Hissing sound in home receiver.
John Sendlein 1643 Kimbrough Park Pl. Germantown, TN 38138 (901) 754-0026	Technics SAS	WKNO is OK, but 90.3 (PRM) is worse.
Elizabeth Brondos 1413 Hawcrest Cove Co. ra, TN 38018 (901) 757-2432	Sears	Bleed over of WEVL (89.9)
Not Given Midtown Memphis, TN	Not Given (In basement with antenna on roof)	Intermittent static. Has other electronic equipment that may cause problem.
Not Given 1565 Cedar Farms Cove Cordova, TN 38018	Home	Static and interference.
Jackson Residence 4501 Forrestall Millington, TN 38053 (901) 873-3306	GE	Static during past week. No notice of bleedover from othe stations.

WSMS INTERFERENCE AND GENERAL COMPLAINT LOG

<u>Name/Address/Phone</u>	<u>Receiver</u>	<u>Comments</u>
Jimmy Braden 3520 Walker Memphis, TN 38111 (901) 323-3416	Panasonic manual tuner	Static in background
Don T. Vann 3555 Vernon Memphis, TN 38122 (901) 454-9566	Jambox	Background hiss
Selden Haizlip 245 Wagner Memphis, TN 38103 (901) 527-4433	Marantz	Static -- comes and goes
Kirk Turner 920 Madison, Ste. 434 Memphis, TN 38103 (901) 525-9877	1. Cassette/Receiver 2. Small transistor radio	Static on cassette/receiver kept in a closet. Signal is fine on transistor radio
Jack Dempsey 5400 Park, #217 Memphis, TN 38119 (901) 523-8990	Car Radio	Static in background
Johnny Williams 1804 Glenview Memphis, TN 38114 (901) 274-3190	Sony stereo- digital tuner	Static under signal. Clearer at night.
Jan. Harrington 1923 Sea Isle Rd. Memphis, TN 38117 (901) 685-8002	Boombox/AM-FM cassette unit	Bleeding over KASU in Jonesboro, Arkansas
Jerry Davis 2713 Chelsea Memphis, TN 38108 (901) 327-0659	GE portable	Signal fading/fuzzy
Darrel Bleckley 245 N. Bellevue Memphis, TN 38105 (901) 276-2562	AM/FM portable	Fading/static

WSMS INTERFERENCE AND GENERAL COMPLAINT LOG

<u>Name/Address/Phone</u>	<u>Receiver</u>	<u>Comments</u>
Marie Williams Mid-South Mental Health Ctr. Danny Thomas at Linden Memphis, TN 38103 (901) 577-0200	Small transistor	WKNO sometimes plays over WSMS. Problem occurs mostly in the morning. 99% of time WSMS is fine. (She is in an office on first floor with no windows.)
Van McCurley 1081 Court Memphis, TN 38104 (901) 522-9360	Digital tuner	Fades in and out/hiss. OK at night.
Eric Pugh 216 Democrat Rd. Memphis, TN 38132 (901) 922-6036	Transistor AM/FM/ Shortwave	fading
Jarek Pryor 127 N. Montgomery Memphis, TN 38104 (901) 274-6856	Non-digital Sony	fading in and out
Steve Shipp 1506 Monroe Memphis, TN 38104 (not given)	Sansui 7000	Static interference
Alan Iskiwitz 567 Vantage Point Memphis, TN 38131 (901) 682-0909	Onkoyo Tuner	Signal fades in and out. Loses stereo occasionally.
Regina Moore 3670 Shady Hollow Rd. Memphis, TN 38116 (901) 332-0443		WKNO overriding WSMS signal. Problem far worse prior to power increase.
Alex Calvin 7790 Deer Lake Drive Memphis, TN 38053	Car radio/non-digital tuner	Weak signal in Raleigh area

Exhibit "D"

WKNO-FM And WSMS-FM Field Strength Readings
And Interference Tests

On January 22, 23, and 24, 1991, field strength and interference measurements were taken at 45 monitor points by Barry Less of WSMS and myself.

A Potomac Instruments field strength meter, Model FIM-72, serial number 443 was used in conjunction with a Model ANT-71 antenna at a height of 7 feet above ground.

Direct readings were recorded as well as readings multiplied by a 2.4 constant as specified for the ANT-71 antenna chart at the operating frequency. The "Adjusted Reading" on the measurement sheets takes this constant into consideration.

Pat Lane 
Chief Engineer, WKNO-TV/FM

1/24/91

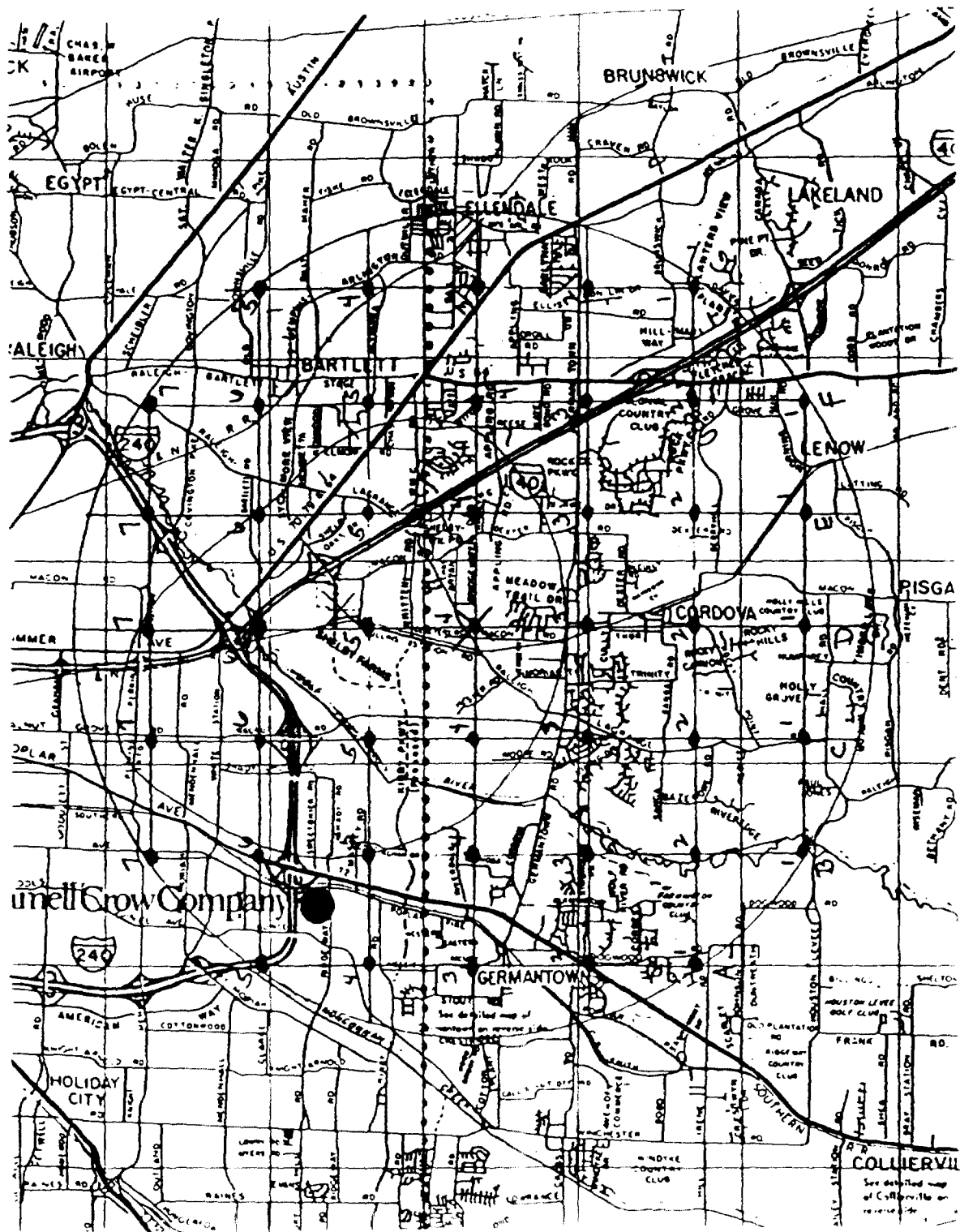


Exhibit "E"

WKNO-FM And WSMS-FM Field Strength Readings
And Interference Tests

The following receiving equipment was used for these tests:


Audiovox Model AV-932 digital car radio;

An analog tuning car radio supplied from the automobile factory mounted in a 1985 Honda Accord hatchback;

A Toshiba Model RP-A830 "Walkman" style headset receiver;

A Realistic Model SCR-19 analog "boom-box" type receiver;

And a Scott Model RS-30A digital receiver.

Pat Lane 
Chief Engineer, WKNO-TV/FM

Date: 1/24/91

Exhibit "F"

WKNO-FM and WSMS-FM Field Strength Readings (mV) Interference Tests

<u>COORDINATES</u>	<u>LOCATION</u>	<u>STATION</u>	<u>READING</u>	<u>μs</u>	<u>Rdg.</u>	<u>COMMENTS</u>
A - 2	Forest Hill Irene at Dogwood	WKNO	13	31		No Interference
		WSMS	1.9	4.5		
A - 3	Dogwood at Kimbrough	WKNO	22	53		No Interference
		WSMS	2.4	5.8		
A - 4	West end of McVay Road	WKNO	14	33		No Interference
		WSMS	4.4	11		
A - 5	Massey at Kirby Oaks	WKNO	12	29		No Interference
		WSMS	5.7	14		
A - 6	Crestwood at Lyford	WKNO	5.3	13		No Interference
		WSMS	2	4.8		
B - 1	Houston Levy South of Wolf River	WKNO	11.5	28		No Interference
		WSMS	3	7.2		
B - 2	488 Doe Trail Cove	WKNO	26	62		No Interference
		WSMS	6	14		
B - 3	North end of Kimbrough	WKNO	26	62		No Interference
		WSMS	6.7	16		
B - 4	Neshoba at Riverdale Park	WKNO	14	34		No Interference
		WSMS	14	34		
B - 5	End of International Pl. N. of Poplar	WKNO	32	77		No Interference
		WSMS	8.2	20		
B - 6	900 June at Poplar	WKNO	17	41		No Interference
		WSMS	4.5	11		
B - 7	Perkins at Crossover	WKNO	3	7.2		No Interference
		WSMS	0.9	2.2		

WKNO-FM and WSMS-FM Field Strength Readings (mV) Interference Tests

<u>COORDINATES</u>	<u>LOCATION</u>	<u>STATION</u>	<u>READING</u>	<u>Adjusted Rdg.</u>	<u>COMMENTS</u>
C-1	Walnut Grove 1000 ft. W.of Hall Rd.	WKNO	15	36	No Interference
		WSMS	2.5	6	
C-2	Walnut Grove at Forest Hill Irene	WKNO	13	31	Toshiba radio unusable due to interference from WEVL. Interference to Realistic radio on WSMS and WKNO from WEVL.
		WSMS	1.25	3	
		WEVL	580	1400	
C-3	8135 Walnut Grove Rd.	WKNO	21	50	No Interference
		WSMS	4.8	12	
C-4	Behind Agricenter Building	WKNO	82	197	No Interference
		WSMS	11	26	
C-5	Farm Rd. 300 Ft. S. of Walnut Grove	WKNO	92	221	No Interference
		WSMS	17	41	
C-6	12 East Yates at Walnut Grove	WKNO	23	55	No Interference
		WSMS	37	89	
C-7	Walnut Grove at Perkins In parking lot of Holy Communion Church	WKNO	7	17	No Interference
		WSMS	3.8	9	
D-1	Woodland Hills at Woodland Trace	WKNO	14	33	No Interference
		WSMS	3.2	7.7	
D-2	Macon & D St. in parking lot of Cordova Baptist Church	WKNO	10.5	25	No Interference
		WSMS	4.2	10	
D-3	Macon at Cordova Station	WKNO	10	24	No Interference
		WSMS	4.1	9.8	

WKNO-FM and WSMS-FM Field Strength Readings (mV) Interference Tests

<u>COORDINATES</u>	<u>LOCATION</u>	<u>STATION</u>	<u>READING</u>	<u>A</u>	<u>Δs</u>	<u>Rdg.</u>	<u>COMMENTS</u>
D-4	7192 Raleigh LaGrange Rd. in front of WKNO transmitter building	WKNO WSMS	3000 0	7200 0			WSMS readings unavailable due to field strength meter overload. Toshiba and Realistic radios had severe interference to WSMS from WKNO.
D-5	Mullins Station at Farm Road	WKNO WSMS	72 210	173 500			No Interference
D-6	I-40 at I-240 S.E. end of interchange	WKNO WSMS	56 40	134 96			No Interference
D-7	Perkins North of Summer at parking lot of Berclair School	WKNO WSMS	13 5	31 12			No Interference
E-1	Pisgah Rd. South of Letting	WKNO WSMS	3.3 3.4	5.7 8.2			No Interference
E-2	Berryhill North of Dexter Road	WKNO WSMS	10.5 3.6	25 8.6			No Interference
E-3	Briarwood Church parking lot near Germantown Road and Woodchase	WKNO WSMS	5 5	12 12			No Interference
E-4	Goodlett Farms at Garret Ridge	WKNO WSMS	110 3.6	264 11			No Interference
E-5	Raleigh LaGrange at Goldbrier	WKNO WSMS	31 18.5	74 44			No Interference
E-6	Bartlett Road at Wagon Gap Road	WKNO WSMS	49 7.1	118 17			No Interference
E-7	I-240 near Covington Pike	WKNO WSMS	45 7.4	108 18			No interference, but tuning real sharp on Toshiba receiver on WSMS.

WKNO-FM and WSMS-FM Field Strength Readings (mV) Interference Tests

<u>COORDINATES</u>	<u>LOCATION</u>	<u>STATION</u>	<u>READING</u>	<u>Δ</u>	<u>Δs</u>	<u>Rdg.</u>	<u>COMMENTS</u>
F-1	Morning Sun at Highway 64	WKNO	0.73	1.8			No interference
		WSMS	0.5	1.2			
F-2	8939 Highway 64	WKNO	2.8	6.7			No interference
		WSMS	4.3	10			
F-3	Germantown Road North of I-40	WKNO	26	62			Some static on WSMS on Toshiba radio while walking
		WSMS	5.4	13			
F-4	Appling at Oakfield	WKNO	32	77			No interference
		WSMS	4.7	11			
F-5	Alturia at Juneway	WKNO	47	113			No interference
		WSMS	8.6	17			
F-6	2825 McCulley	WKNO	17.2	41			No interference
		WSMS	3.1	7.4			
F-7	4625 Raleigh LaGrange Road	WKNO	17	41			Toshiba radio noisy on WSMS due to weak signal.
		WSMS	1	2.4			
G-2	Davies Plantation E. of Planters View	WKNO	3	7.2			No interference
		WSMS	2.3	5.5			
G-3	3700 Germantown Rd. at entrance to Memory Hill Funeral Gardens	WKNO	12	29			No interference
		WSMS	5.3	13			
G-4	Marietta at Broadway	WKNO	20	48			No interference
		WSMS	4.1	9.8			
G-5	Memphis-Arlington Rd. at Alturia	WKNO	43	103			Toshiba radio has some inter- ference to WSMS while moving.
		WSMS	2.9	7			
G-6	5501 Peyton Randolph St.	WKNO	26.5	64			Toshiba radio has some inter- ference to WSMS while moving.
			1.9	4.6			